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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,339	11/14/2001	Thomas M. Dunn	32409	4957
23589	7590	04/04/2003		
HOVEY WILLIAMS TIMMONS & COLLINS 2405 GRAND BLVD., SUITE 400 KANSAS CITY, MO 64108			EXAMINER	NGUYEN, THONG Q
			ART UNIT	PAPER NUMBER
			2872	
DATE MAILED: 04/04/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Offic Action Summary</b>	Applicati n N .	Applicant(s)
	10/004,339	DUNN, THOMAS M.
	Examiner Thong Q. Nguyen	Art Unit 2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 November 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Drawings***

1. The drawings contain four sheets of figures 1-5 filed on 11/14/2001 have been received by the Office.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: In particular, the references "J1-J3", "P1-P2", "S1", "BT1", and "F1" shown in figures 3 and 4 are not mentioned in the specification. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
4. The disclosure is objected to because of the following informalities: Page 4: line 23, "course" should be changed to --coarse--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for use a plurality of LEDs mounted on a circuit board for projecting light toward the stage supporting a specimen, does not reasonably provide enablement for use a plurality of LEDs mounted on a circuit board for projecting light toward the stand. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out a proper antecedent basis for the feature thereof "the battery" recited on line 1 of the claim.

9. Claims 9-10, 18 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 9 is rejected under 35 USC 112, second paragraph because it is unclear about the structure or in the alternative the arrangement of the LEDs during an illumination process. In particular, the claim recite that the LEDs have a highly-focused illumination (claim 9, lines 1-2); however, it is unclear the feature relating to the highly-focus illumination is directed to the structure of the LED or just reference to the orientation of the LED with respect to the specimen.

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- b) Claim 10 is indefinite because it is unclear about the formation/orientation of the LED with the angle as claimed. In other words, it is unclear about the axis or the direction used to form the so-called "20 degrees" with the LEDs.
- c) Each of claims 18 and 25 is rejected for the similar reason as set forth in element a) above.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
- (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

11. Claim 1, as best as understood, is rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al (Japanese reference No. 1-170913).

Takahashi et al disclose a microscope having a stand (1) for supporting a stage (3) which in turn supports a specimen chamber (2), an objective lens system (8)

and an eyepiece system (9). Takahashi et al also disclose the use of an illuminating system having a circuit board (6) supporting a plurality of light emitting diodes (5a). See pages 63-64 and figs. 1-2, for example.

12. Claims 1-3, 9, 13-14, 16, 18-20 and 25, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Richardson (Canada Patent No. 2,262,912).

Richardson discloses a cordless microscope. The microscope with illuminating system as described in pages 4-6 (starting from line 116 in page 4) comprises a frame for supporting a base and an arm wherein the base is used to support a combination of LEDs and circuit board and the arm is used to support a microscope having an objective system and an eyepiece system. The connection among the battery (118), LEDs (101) and wires are made via the wiring as described in page 5, lines 145+. It is also noted that Richardson disclose the use of a switch (116) for turn ON/OFF the illumination and also the use of external source via the connection (117) as can be seen in page 5. With regard to the arrangement of the LEDs, it is noted that the LEDs are oriented toward the stage for the purpose of providing maximum light to the object.

13. Claims 13 and 18, as best as understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Ikado et al (U.S. Patent No. 6,313,943).

Ikado et al disclose a microscope having an illuminating system. The microscope with the illuminating system as described in columns 3-5 and shown in figures 1 and 5, for example, comprises a stage chamber (16) supporting a sample to be

observed and an illuminating system (18) disposed at a lower part of the chamber (16). The illuminating system comprises a plurality of LEDs (41) mounted on a circular-shaped circuit board for projecting light toward the stage chamber. It is noted that each of the LED is oriented to focus light onto the sample chamber so that the camera can have a focus with a maximum light intensity. See also figures 3 and 6(b).

14. Claims 19-21, 23 and 25, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Vennard (U.S. Patent No. 4,157,007).

Vennard discloses an illuminating system for a watch module. The illuminating system as described in columns 2-4 and shown in figures 1-2, for example, comprises a circular-shaped circuit board (10) having a plurality of electrical wires embedded therein for the purpose of transmitting current flow from a battery/power source, a set of four LEDs (28, 30, 34 and 36) mounted on the circuit board for projecting light upwardly from the circuit board. The formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery to the LEDs are also disclosed by Vennard as can be seen in columns 3-4.

With regard to the use of the light assembly in a microscope as recited in the preamble of the claim, see line 1 of claim 19, such a recitation in the preamble part of a claim is not given a patentable weight because all features appeared after the term "comprising" of the claim do not provide any structural limitations for the microscope recited in the preamble. Applicant should note that it was

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decided in the Courts that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, *supra* at 480, 88 USPQ 478 (CCPA 1951); Ex parte Mott, 190 USPQ 311, 313 (PTO Bd. Of App. 1975).

15. Claims 19-20, 22 and 24-25, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Gurz et al (U.S. Patent No. 5,539,623).

Gurz et al disclose an illuminating system for an exit sign. The illuminating system as described in columns 4-7, claims 13-14 and shown in figures 2 and 7-8, for example, comprises a circuit board (70) wherein a reflective coating is coated for the purpose of increasing the reflection (column 5, lines 34+); a plurality of LEDs (65) mounted on the circuit board for projecting light upwardly from the circuit board. The use of a battery and a rechargeable battery in connection to the LEDs is disclosed as can be seen in columns 4-7. With regard to the formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery and/or the rechargeable battery to the LEDs are inherently disclosed when Gruz et al refer to the conventional circuit board with circuitry disclosed in column 7.

With regard to the use of the light assembly in a microscope as recited in the preamble of the claim, see line 1 of claim 19, such a recitation in the preamble

part of a claim is not given a patentable weight because all features appeared after the term "comprising" of the claim do not provide any structural limitations for the microscope recited in the preamble. Applicant should note that it was decided in the Courts that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, *supra* at 480, 88 USPQ 478 (CCPA 1951); Ex parte Mott, 190 USPQ 311, 313 (PTO Bd. Of App. 1975).

16. Claims 13-14, 16-20 and 24-25, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Brandorff et al (U.S. Patent No. 5,408,084).

Brandorff et al disclose an imaging apparatus having a camera and an illuminating system wherein the light provided by the illuminating system is guided to illuminate an element (14) disposed in a stage (12). The illuminating system as described in columns 2-7 and shown in figures 1-4 comprises a circuit board (110); a plurality of LEDs (120) mounted on the circuit board for projecting light toward the element disposed on the stage. The use of a battery and a rechargeable battery in connection to the LEDs is disclosed as can be seen in columns 3-4. With regard to the formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery and/or the rechargeable battery to the

LEDs are inherently disclosed when Brandorff et al refer to the structure of the circuitry disclosed in columns 6-7 and fig. 4.

With regard to the recitation of a microscope in claim 13, line 1 or the use of the light assembly in a microscope as recited in the preamble of claim 19, line 1, such a recitation in the preamble part of a claim is not given a patentable weight because all features appeared after the term "comprising" of the claim do not provide any structural limitations for the microscope recited in the preamble.

Applicant should note that it was decided in the Courts that a preamble is denied the effect of a limitation where the claim is drawn to a structure and the portion of the claim following the preamble is a self-contained description of the structure not depending for completeness upon the introductory clause. Kropa v. Robie, supra at 480, 88 USPQ 478 (CCPA 1951) ; Ex parte Mott, 190 USPQ 311, 313 (PTO Bd. Of App. 1975).

### ***Claim Rejections - 35 USC § 103***

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandorff et al in view of Ikado et al.

The illuminating system having a circuit board supporting a plurality of LEDs as provided by Brandorff et al does not have a circular shape/configuration as that

claimed in the present claim 21. However, it was decided in the Courts that a change in shape is an obvious matter to one skilled in the art. *In re Dailey*, 149 USPQ 47 (CCPA 1976). Further, the use of a circuit board having a rectangular shape or a circular shape is known to one skilled in the art as can be seen in the illuminating system provided by Ikado et al. See column 5 and figs. 4. Thus, absent of any criticality with unexpected result then it would have been obvious to one skilled in the art to modify the system provided by Brandorff et al by using any kind of shape including a circular shape for the circuit board as suggested by Ikado et al for the purpose of providing a desired illumination pattern to a particular object to be illuminated.

19. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandorff et al in view of Gurz et al.

The illuminating system having LEDs mounted on a circuit board as disclosed by Brandorff et al does not have a reflective coating formed on the circuit board. However, the use of a reflective coating on a circuit board supporting a plurality of LEDs is known to one skilled in the art as can be seen in the illuminating system provided by Gurz et al. In particular, Gurz et al disclose an illuminating system for an exit sign. The illuminating system as described in columns 4-7, claims 13-14 and shown in figures 2 and 7-8, for example, comprises a circuit board (70) for supporting a plurality of LEDs (65) wherein a reflective coating is coated for the purpose of increasing the reflection (column 5, lines 34+). Thus, it would have been obvious to one skilled in the art at the time the invention was

made to modify the illuminating system provided by Brandorff et al by utilizing a reflective coating on the circuit board as suggested by Gurz et al for the purpose of increasing the reflectant process.

20. Claims 1-25, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Colvin (U.S. Patent No. 5,970,167) in view of Vennard (U.S. Patent No. 4,157,007) and Yoshinaga (U.S. Patent No. 3,971,622).

Colvin discloses an apparatus for observing integrated circuits. The system as described in columns 3-4 and shown in figures 1-3 comprises a microscope (102) and an illuminating system (100). In column 3, lines 56+, Colvin discloses the use of a light box (100) having an upper section and a lower section which box supports a plural LEDs powered by the circuit (203). While Colvin does not clearly state that the microscope having a stand for supporting a stage and the microscope having an objective and eyepiece systems; however, such use of a stand for supporting a stage and a microscope wherein the stand comprises a base for supporting an illuminating system is known to one skilled in the art as can be seen in the microscope with an illuminating system provided by Yoshinaga. See columns 1-2 and figs. 1-2. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the system provided by Colvin by using a stand for supporting the microscope, the stage and an illuminating system as suggested by Yoshinaga for the purpose of obtaining a compact system for viewing object when the system is used remote from conventional power sources or in-lab use.

Regard to the mounting of the LEDs on the circuit board, while Colvin does not clearly state that the LEDs are mounted on the circuit board and powered by the battery or the recharge battery via the connections; however, such an electrical connections are known to one skilled in the art as can be seen in the system provided by Vennard. In particular, Vennard discloses an illuminating system for a watch module. The illuminating system as described in columns 2-4 and shown in figures 1-2, for example, comprises a circular-shaped circuit board (10) having a plurality of electrical wires embedded therein for the purpose of transmitting current flow from a battery/power source, a set of four LEDs (28, 30, 34 and 36) mounted on the circuit board for projecting light upwardly from the circuit board. With regard to the arrangement of the LEDs, it is noted that the LEDs are oriented toward the stage or rearranging the LEDs in any suitable position and orientation for the purpose of providing maximum light to the object as well as for satisfying a particular decoration/configuration. It is also noted that the formation of connectors for connecting the LEDs and the battery/power source and a switch for controlling the ON/OFF transmission of current from the battery to the LEDs are also disclosed by Vennard as can be seen in columns 3-4. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the illuminating system provided by Colvin and Yoshinaga by installing the LEDs on a circuit board via the connections and powered by battery as suggested by Vennard for the purpose of providing an illumination to an object.

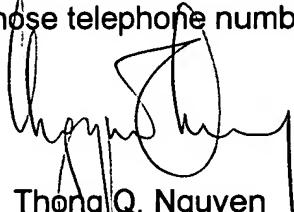
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***Conclusion***

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. The examiner can normally be reached on M-F.

The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen  
Primary Examiner  
Art Unit 2872

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March 31, 2003